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Educational Television Series 1968-69

Teachers' Guide

Health PRIMARY DIVISION

All About You

Educational Television Branch
ONTARIO DEPARTMENT OF EDUCATION
1670 Bayview Avenue, Toronto 17

HEALTH

Primary Division

ALL ABOUT YOU

20 programs, 15 minutes each

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GENERAL INTRODUCTION

This series of twenty television programs has been designed to give primary grade teachers a basis for an extensive course in Health.

Activities, experiences and materials have been selected within a framework which allows and encourages the teacher to expand them. It is hoped that the teacher using this guide will feel free to extend lists of material, to create follow-up learning experiences appropriate to her own group of children and in many ways personalize the ideas presented.

What can you do to make successful use of these programs?

Plan the class period in three parts: pre-telecast, telecast and follow-up.

1. Pre-telecast

Create a climate for learning by arousing the children's interest in the program. Establish the purpose of the program but without pre-teaching the television lesson.

2. Telecast

Turn set on well before the program and make sure that it will operate properly. Arrange good viewing conditions assuring adequate ventilation and proper lighting.

3. Follow-up

The teacher first makes a quick appraisal of the program in terms of the learning needs of the children. She then decides which areas need reinforcing or clarifying, and selects the types of follow-up activities which will accomplish this and contribute to the total learning process.

Please address inquiries and comments to:

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E.T.V. Branch,
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Toronto 17.

PROGRAM 1

ARE YOU A MACHINE?

The program presents to the children the idea that in many ways their bodies are like machines. It proceeds then to lead them to appreciate the many wonderful ways in which they are different from a machine.

PROGRAM CONTENT

Here a walking, squawking toy man is used as an example of a machine. In some ways this machine is like a human body but in many ways it is not. Your class will discover that he cannot hear, learn, or understand.

Then you look inside the mechanical man to see what makes him go. This leads to a look inside a human body, and the pupils will be introduced to an anatomical model which will be used as a teaching aid several times in the series.

By comparing the mechanical man with the anatomical model, the children will learn that both have an orderly arrangement of parts and that each part is necessary. They will begin to identify important parts of their bodies and understand the concept that for every function of the body there is an orderly arrangement of structures. This is important as a base for the child's continuing study of his own mind and body.

The lesson finishes by using an amusing trick photograph which teaches what a dull world it would be if all human beings, like factory-built mechanical toys, looked exactly alike.

SUGGESTED PRE-VIEWING ACTIVITIES

1. Recall with the children the rhyme which says that little girls are made of "sugar and spice and everything nice" and that little boys are made of "snips and snails and puppy dog tails."

2. Discuss the rhyme with such questions as: Why do you think that is not true? or what do you really think is inside of you?

3. Have children make a large drawing showing just what they think they are like inside themselves.

SUGGESTED POST-VIEWING ACTIVITIES

1. Have the children look at their drawings and discuss ways in which they might now wish to change them — what important parts of the body they must be sure to include in their drawings.
2. Using a mechanical toy (a walking, talking doll would be a good choice), have the children compare themselves with the toy, noting similarities and differences.

From such a discussion the following ideas might evolve:

Likenesses

1. You can move and there are moving parts to your body.
2. You are shaped within a definite framework.
3. You have many parts to your body which have very special jobs to do.

Differences

1. You can talk to *one another.*
2. You are quite different from any other person. No one is exactly like you.
3. You can do all these things which machines or mechanical toys cannot do:
   - grow,
   - think by yourself,
   - feel.

WORD CONCEPTS

organs	stomach	lungs
digested	liver	intestines
heart	model	

Suggested Bibliography

RUCHLIS, HYMAN: *What Makes Me Tick?* Harvey House, Irvington-on-Hudson, New York. (Relco Associates, Toronto.)

ZIM, HERBERT S: *What's Inside of Me?* William Morrow & Co. New York. (George J. McLeod, Toronto.)

PROGRAM 2

TWO HUNDRED BONES

This program gives the children a picture of the skeletal structure of their bodies. It indicates the twofold purpose of this structure: to give overall support to the body, and to provide a protection for internal organs. As it develops, pupils will consider, in particular, the functions of the spine, the rib cage, and the skull.

PROGRAM CONTENT

The first concept shown is that a framework is needed to support a house of cards, a real house and the human body. By pressing with their fingers, the pupils discover their own framework of bones. By counting bundles of sticks, they learn the large number of bones each body needs.

By introducing a skeleton, "Mr. Bones", the general arrangement of large bones is demonstrated. The class will learn that the skeleton is not just a "Hallowe'en spook" but rather an important flexible framework with special functions that are needed for action and protection.

The flexibility concept is demonstrated by a rag doll and a discussion of circus performers. The child now learns that the first idea of a framework (as in a house) is an incomplete description of his bone structure.

To learn the action of the spine, the child presses the bones in his neck and down his back, then stands and bends forward, backward and to the side. He also watches a demonstration which contrasts a stiff rod with wooden spools threaded on a wire. Thus he will learn the nature and function of the spine.

Similarly, using "Mr. Bones", a study of the "rib cage" is made showing the ribs as protection for the important organs within (heart, lungs, liver).

The skull of a monkey is used to study the head: the openings, the protective concept, and the movement of the jaw bone.

The TV teacher will summarize the important points in her lesson.

SUGGESTED PRE-VIEWING ACTIVITIES

Discuss or take a walk in the neighbourhood to observe a building under construction.

Lead the children to think of these facts in their discussion:

- when workmen build a house, they first put up a framework which determines the size and shape of the house,
- the rest of the house is built around the frame,
- the house will fall down without this framework.
- each child has a framework of bones, the skeleton,
- it not only gives him shape but holds him upright,
- without it he would be more like a jellyfish than a human being.

SUGGESTED POST-VIEWING ACTIVITIES

1. Have the children locate the major bones of their bodies and discuss their functions.
2. Have them make an outline drawing of their body and fill in the skeleton. Try to provide a diagram against which they may later check their drawings.
3. Enrichment activities:
   - Study x-ray pictures of broken bones.
   - Are bones broken easily?
   - How can you avoid breaking bones? (Use protective sports equipment)
   - How is your skeleton different from a baby's? From an adult's?
   - Why is it different?

WORD CONCEPTS

skeleton	rib cage
brain	skull
spine	framework

Suggested Bibliography

LAUBER, PATRICIA: *Your Body and How it Works,* Random House, New York. (Random of Canada, Rexdale, Ontario.)

McGOVERN, ANN: *The Question and Answer Book About the Human Body.* Random House, New York. (Random of Canada, Rexdale, Ontario.)

ZIM, HERBERT S: *What's Inside of Me?* William Morrow & Co., New York. (George J. McLeod, Toronto.)

PROGRAM 3

NO STRINGS ON YOU

Continuing the concept of the body as a special kind of machine having a framework of bones to help it move, the need for muscles is now introduced. The child will learn the importance of muscles as bands to hold the framework together, to give the body shape and to make movement possible. The first health behaviour concept of this series will be covered, that of the importance of vigorous exercise to a healthy body.

PROGRAM CONTENT

The program opens with an interesting comparison of the controlling strings of a puppet and the muscles and tendons of the body. To discover what makes their bodies move, the pupils will then feel their own arms, legs, chest and face. A turkey wing will be used to show them what muscles and tendons look like. The concept that the children will gain is that for even the slightest movement of the body, or any part of it, there is a group of muscles which must work together to make the movement possible

Some muscles work only when they are told. The TV teacher demonstrates this by wiggling her ears.

The intricate work of muscles to produce handwriting can be learned with much practice. Here two samples of a child's writing will show how muscle control can be achieved.

Finally, playground activity will point up the importance of exercise in the development of muscles and strong healthy bodies.

SUGGESTED PRE-VIEWING ACTIVITIES

1. Review the concept of the skeleton as a framework which gives general support to the body and serves as a protection to internal organs. Have the children feel the skeletal bones of their bodies.

2. Although children of this age would have difficulty manipulating a string puppet, a child from Grade four or five might enjoy demonstrating a marionette which he has made. Discuss with the children how the strings control the movement of the puppet. Do they have strings in their bodies to move their bones?

SUGGESTED POST-VIEWING ACTIVITIES

1. Have the children feel the tendons in their heels, at the backs of their knees, in their hands and in the bend of their arms.

2. A chicken foot could be used to illustrate how the tendon in the foot controls the movement of the toes.

ENRICHMENT ACTIVITIES

1. The movement of simple animals like the earthworm and snail make an interesting study.

2. The children may be interested to know that when they are cold, the muscles under their skin tighten. This tightening pushes up the little hair roots under the skin, makes the fine hair rise and results in "goose bumps".

3. The children may enjoy collecting pictures of people whose work demands that they keep their muscles in good condition – hockey players, ballet dancers, skaters, construction workers, etc.

WORD CONCEPTS

muscles
joints
tendons

Suggested Bibliography

LAUBER, PATRICIA: *Your Body and How it Works,* Easy-to-Read Science Books, Random House, New York. (Random of Canada, Rexdale, Ontario.)

McGOVERN, ANN: *The Question and Answer Book About the Human Body.* Random House, New York. (Random of Canada, Rexdale, Ontario.)

ZIM HERBERT S.: *What's Inside of Me?* William Morrow and Co., New York. (Geo. McLeod, Toronto.)

PROGRAM 4

MOVE THOSE MUSCLES

This lesson underlines the need for vigorous daily exercise. It demonstrates good posture and emphasizes the need for building good posture habits now.

PROGRAM CONTENT

When the program opens the children see the teacher riding her bicycle to the zoo. She tells the children that she enjoys bicycling because it is not only fun, but good exercise. She asks them what kinds of exercise they like.

The children watch for animals at the zoo that seem to like exercise. They see lion cubs and monkeys. They are shown a film to demonstrate wild animals exercising. The film is about three young baboons playing in a tree.

The question is asked, "What would happen if people did not exercise?" This is answered through the film cartoon of "Harry-Never-Move, Poor Harry!" The children learn that it is necessary to move their muscles in order for them to develop properly. They discover, too, that early man had to keep his muscles strong so that he could survive.

The teacher points out that some animals can move on two feet also. The children see a gibbon ape moving on two feet, but grow properly. They see a comparison of their own spine with that of a baby.

They note that the curves in their spine help them in a very special way – to move on two feet.

The teacher points out that some animals can move on two feet also. The children see a gibbon ape moving on two feet, but when he stops moving he falls down. They observe that he moves more easily when he is swinging by his arms.

To prove that they can use their muscles in any way they wish, the children join in a game of statues.

Next they observe good posture as demonstrated by a wooden doll.

The program concludes with a kindergym demonstration of things children can do to make their bodies strong and enjoy themselves at the same time.

SUGGESTED PRE-VIEWING ACTIVITIES

1. Have the children check the curves in their spines. The children lean against a wall and try to press their spines flat. By using a ruler, you can help them find the hollow in their backs and behind their necks. Why isn't your spine as straight as the wall? As you watch the film see if you can find out why you have curves in your spine.

SUGGESTED POST-VIEWING ACTIVITIES

1. The children will probably want to try out some of the suggested activities demonstrated in the kindergym class.

2. Play statues at recess time. Form a large circle with you in the centre as leader. Cover your eyes as the children move in any way they wish. When you say "Freeze!", the children must hold their positions. When each game is played you may call the funniest, the ugliest, the fiercest etc. The winner may become leader for the next game.

3. Children enjoy balancing. You may make balance beams by turning two long benches upside down or by nailing 2" x 4" beams to separate end blocks. Have the children walk forward in pairs with hands joined, then slowly backwards, hands still joined, then sideways, facing each other.

4. Remember "Harry-Never-Move."

"Here is Harry-Never-Move,
Sits indoors watching TV all day.
Poor pale and puny Harry.
Always feels too tired to play.
Why does Harry feel so tired?"

WORD CONCEPTS

exercise
spine
curves

Suggested Bibliography

BORTEN, HELEN: *Do You Move as I do?* Aberlard-Schuman Can. Scarborough, Ontario.

PARSONS, VIRGINIA: *Play, Doubleday* (Doubleday Pub., Toronto)

PROGRAM 5

WHAT IS YOUR FUEL

Machines require fuel. The body, like a machine, also requires fuel. The program will show how food is changed into fuel; an elementary concept of the digestive system. It will build on the preceding concepts of the body as a type of machine, which has a skeleton and muscle system to allow it to move, and now requires fuel for this purpose.

PROGRAM CONTENT

The pupils first discover that a toy steam engine which hisses and puffs along requires fuel. Then by using diagrams and models, the teacher shows how we mash, moisten and swallow our food and its passage into the food tube, stomach and intestines. Thus, the digestive system is introduced.

By using an electric blender and a typical lunch, the liquid consistency of digested food will be demonstrated. Then the class will see the passing of the digested food from the intestines into the body as fuel, or out of the body as waste. The children will be asked to make a map to show how their suppers will travel through their digestive systems.

SUGGESTED PRE-VIEWING ACTIVITIES

1. Give the children some food to eat, (peanuts, raisins, a piece of apple). After they have eaten it, ask what they think happened to the food after they put it into their mouths. Where do they think the food is now?

SUGGESTED POST-VIEWING ACTIVITIES

1. Using a toy steam engine, demonstrate the need for fuel. Remove fuel and watch the power of the engine reduce. (Note: Steam engines are hazardous and must be used with care.)

2. Questions for discussion:
   - What happens when the steam engine or a car runs out of fuel?
   - How do *you* feel when your fuel supply runs low?
   - When does a car use the most fuel? Less fuel? When do you?
   - Do cars grow? Do you? Which foods help you to grow?

WORD CONCEPTS

waste	food tube	digested
fuel	stomach	intestines

Suggested Bibliography

JUPO, FRANK: *Nothing to Eat but Food,* Aladdin Brooks

McGOVERN, ANN: *The Question and Answer Book About the Human Body.* Random House (Random of Can., Rexdale, Ontario)

PROGRAM 6

THE THREE G'S

This program demonstrates the relationship of good food to energy, growth and good health — the Go, Grow and Glow concept. It also introduces the four food groups and the meaning of a balanced diet.

PROGRAM CONTENT

Pictures of children of many cultural backgrounds are used to introduce the

concept that people everywhere enjoy good food. The children learn that all living things must eat in order to survive.

Next the teacher shows how the children can prepare a good breakfast for themselves.

A mechanical, dancing monkey demonstrates that good food keeps children on the *Go.*

Six year old Lynne, who has outgrown her last year's coat, uses a second monkey to tell the children that good food helps them to *Grow.*

The *Glow* concept is introduced by a monkey whose eyes light up.

The next problem considered is, "Why do people eat so many different foods?" The need for a variety of foods is emphasized and the four food groups are presented. A balanced diet is discussed.

The children then go to the supermarket with the teacher and her two-year old daughter, Lisa. They select foods from each food group and observe that foods from each group are displayed together.

This program concludes with the teacher and Lisa about to sit down to lunch. The children are invited to check the foods on the table to determine if this is a balanced meal.

SUGGESTED PRE-VIEWING ACTIVITIES

Recall with the children why people eat. List the many kinds of foods which they like to eat. Why do you think we need to eat more that one kind of food?

SUGGESTED POST-VIEWING ACTIVITIES

1. Do children really understand what a balanced diet is? To reinforce their understanding, have each child make a chart of the four food groups. Under the four food headings, have them draw, or cut from magazines, pictures of related foods.
2. Do children everywhere in the world eat the same kinds of food? Why not?
3. A tasting party is fun, especially if the children are involved in the selection of foods to be tasted. This may be as simple as a tray of various raw vegetables or fresh fruits. If the group is multi-ethnic the mothers may co-operate by preparing and serving foods in their own traditions.

WORD CONCEPTS

energy the four food groups

Suggested Bibliography

GEORGIOU, CONSTANTINE: *Whitey and Whiskers and Food,* Harvey House Inc., Irvington-on-Hudson, New York (Relco Associates Toronto)

ZIM, HERBERT S: *Your Food and You* William Morrow & Co., New York (Geo. J. McLeod, Toronto)

PROGRAM 7

TWENTY WHITE HORSES

This program will build on the introduction to the digestive system discussed in program five and will cover the function of teeth. There will be particular emphasis upon the replacement of "baby teeth" by permanent teeth. The need for dental care will be emphasized.

PROGRAM CONTENT

The TV teacher will use a riddle to introduce this topic:

"Twenty white horses upon a red hill,
Now they tramp, now they tramp,
now they tramp,
And now they stand still."

The cutting and grinding action of teeth will be demonstrated by using scissors and pliers on an apple. This is the initial stage of digestion.

By using a model, the structure of a tooth and the gums are shown. The children learn that not only the roots of the baby teeth are hidden by the gums, but also a whole set of permanent teeth.

The children will learn an elementary concept of the causes of dental cavities through photographs and a cartoon story. This leads to a study of dental health.

SUGGESTED PRE-VIEWING ACTIVITIES

Distribute several mirrors. Let children observe their teeth and discuss them in any way they wish.

SUGGESTED POST-VIEWING ACTIVITIES

1. Repeat the observation by mirror study. What new information has been learned?
2. Test the action of chewing by giving each child a piece of apple and asking him to try chewing the apple without using his teeth. Then have the child chew the apple as he identifies the teeth with which he chews.
3. By using a large comb smeared with peanut butter, let children learn how hard it is to clean in all the crevices.
4. Invite a dentist to visit the classroom.

WORD CONCEPTS

gums cavities
second teeth or permanent teeth
first teeth or baby teeth

Suggested Bibliography

McGOVERN, ANN: *The Question and Answer Book About the Human Body,* Random House, New York. (Random of Canada, Rexdale, Ontario.)

SCHLOAT JR., G. WARREN: *Your Wonderful Teeth,* Charles Scribner's Sons 1954. (Saunders of Toronto, Don Mills, Ontario.)

SHOWERS, PAUL: *How Many Teeth?* Thomas Y. Crowell Co. 1962. (Ambassador Books, Rexdale, Ontario.)

PROGRAM 8

TAKE A DEEP BREATH

This important lesson will demonstrate the need for AIR and will help your class understand how air enters and is used in the human body.

PROGRAM CONTENT

The TV teacher opens the lesson by playing a flute as a demonstration of one unusual use of air. Next she introduces the concept of the function of the lungs by

blowing through a tube into a jar inverted in a pan of water. Soon the jar fills with air.

Breathing will be discussed, then another demonstration will show that a burning candle will go out when the air is excluded. Similarly the body requires air to function properly.

To show how air enters the body, the teacher will show a diagram of two tubes; the food tube to the stomach, and the air tube to the lungs. By feeling the front of the neck while they swallow, the pupils will feel the ridges on their windpipes.

An anatomical model will be used (refer to program one) to show the location, size and shape of the lungs. The children will feel the action of air in their own bodies.

Divers will be shown under water to demonstrate the need for an air supply at all times. Warning will be given against hazards which shut off the supply of fresh air (plastic bags, old fridges).

SUGGESTED PRE-VIEWING ACTIVITIES

Tell the children that you have a riddle for them.

This is something that is more important to their bodies than drinking or eating. It is something that they have been doing all their lives. It is something that they can stop doing, if they wish, but only for a very short time.

SUGGESTED POST-VIEWING ACTIVITIES

1. Review the candle experiment using a plastic bag. Take great care not to burn the bag. Use a very small candle (a birthday candle). Discuss the real danger of plastic bags.
2. Have the children feel their noses. What are noses good for? Let the children use mirrors to see the tiny hairs inside their noses. Discuss the purpose for these hairs, (to keep dust out of the lungs).
3. Discuss these questions:
   - How can you breathe if your nose is filled up with a cold?
   - How do you breathe when you are swimming, running or playing hard?

WORD CONCEPTS

windpipe lungs

Suggested Bibliography

LAUBER, PATRICIA: *Your Body and How it Works,* Easy-to-Read Science Books, Random House, New York. (Random of Can., Rexdale, Ontario.)

McGOVERN, ANN: *The Question and Answer Book About the Human Body,* Random House, New York. (Random of Can., Rexdale, Ontario.)

PROGRAM 9

YOUR WONDERFUL PUMP

This lesson demonstrates the work of the circulatory system so that the class will understand its importance and gain an elementary knowledge of how it works to perform a vital function.

PROGRAM CONTENT

The children hear a mystery sound, the "lub-dub" of a heart beat, then a stethoscope will remind them of those times that a doctor has listened to their hearts working. They see various pumps in action so that the concept of the heart function is understood.

The quantity of blood in the body is demonstrated (quart bottles). An anatomical model is used in this lesson to show the location and shape of the heart and its relation to the large blood vessels. The heart sections are referred to as rooms in a house with doors between them which must open and close in turn (valve concept).

The TV teacher gives a simple demonstration of the pumping action of the heart by squeezing her own hand in water. Then the pupils are directed to the model again to discover where the openings of the heart are located.

The next concept to be covered is that of the system of blood vessels which the children look for and feel in their own arms.

A model train is used to show how the blood stops to pick up fuel in the intestines and air in the lungs. The lesson concludes with the mystery sound, "lub-dub".

SUGGESTED PRE-VIEWING ACTIVITIES

1. Collect two or three types of pumps (hand lotion dispenser, bicycle tire pump, air mattress pump).
2. Rather than discuss the lesson beforehand, achieve an attitude of expectancy by awaiting the mystery sound of "lub-dub".

SUGGESTED POST-VIEWING ACTIVITIES

1. Demonstrate some of the pump functions seen on the program.
2. Have the children locate pulses in wrists and neck areas.
3. Borrow or make a simple stethoscope to listen to the heart beat (long cardboard tubes will do).
4. Children can show the action of the heart by closing and opening their hands in a container of water.

WORD CONCEPTS

heart blood vessels
blood stethoscope

Suggested Bibliography

LAUBER, PATRICIA: *Your Body and How It Works,* Easy-to-Read Science Books, Random House, New York. (Random of Can., Rexdale, Ontario.)

McGOVERN, ANN: *The Question and Answer Book About the Human Body,* Random House, New York. (Random of Can., Rexdale, Ontario.)

ZIM, HERBERT S: *What's Inside of Me?* William Morrow and Co., New York. (Geo. J. McLeod, Toronto.)

ZIM, HERBERT S: *Your Heart and How It Works,* William Morrow and Co., New York. (Geo. J. McLeod, Toronto.)

PROGRAM 10

GETTING THE MESSAGE

This lesson will demonstrate the function of the five senses; seeing, hearing, tasting, touching and smelling. It then shows how these senses reach the important message centre, the brain.

PROGRAM CONTENT

The TV teacher will help pupils to explore the world of the senses by using audio and visual experiments. They will come to learn the importance of their eyes and ears as they learn.

In one experiment, the teacher, blindfolded and earmuffed, tries to identify an object in a mystery box. By using her senses of feeling, smelling and tasting she finally discovers that it is an apple.

To explain the pathways of learning within the body, a messenger boy is seen carrying messages. Various organs receive messages and these are routed to the brain along a network of nerves. An animated diagram shows how this works.

Rats are then shown in a maze, to study how they learn through their senses.

The program ends with a question to challenge the pupils, "Do your senses sleep when you are asleep?"

SUGGESTED PRE-VIEWING ACTIVITIES

Ask the children to tell in detail everything they know about an orange (colour, size, shape, smell, taste, feel). For each, ask, "How do you know?" This will start them thinking in terms of their five senses.

SUGGESTED POST-VIEWING ACTIVITIES

1. Set out a number of objects on a desk with varied colours, sizes and shapes. After a few seconds' observation by the class, cover the objects. What can the pupils remember? Did their message centres store the information correctly?

2. Test the senses of taste and smell. Have pupils smell a series of liquids and attempt to identify them. Then let them taste a small amount of each in separate cups. Which sense produced the better results? Keep eyes closed while testing.

3. Discuss the use of the senses in safety (traffic, fire, slippery surfaces, hot objects, poisons, bad food).

4. Read one of the following books to the children (or any book with a good story, rich in sensory experiences). Have them note how sight, sound, smell, touch and taste are used to make the story more interesting.

   Lois Lenski: I Went for a Walk. (Walch)
   Zenda Gay: Look. (Viking Press)
   Margaret Wise Brown: City Noisy Book. (Harper.)

WORD CONCEPTS

senses brain nerves

Suggested Bibliography

SHOWERS, PAUL: *My Five Senses,* Thomas Y. Crowell, New York (Ambassador Books, Rexdale, Ontario.)

SHOWERS, PAUL: *Find out by Touching,* Thomas Y. Crowell, New York (Ambassador Books, Rexdale, Ontario.)

ZIM, HERBERT S: *Our Senses and How they Work,* William Morrow and Co., New York (Geo. J. McLeod, Toronto).

PROGRAM 11

YOU AND YOUR FEELINGS

This lesson is intended to help pupils understand that all people have feelings. There are times when everyone feels happy, sad, angry or afraid. It is important to consider the feelings of others.

PROGRAM CONTENT

The TV teacher, through a bit of dramatic play with a puppet named "Muggsy", shows the differences between feelings that come "from inside". The pupils will see how easily feelings can be hurt.

The children try to place themselves "in someone else's shoes" to help them know how others feel. Then they try to understand another's feelings by looking at facial expressions in several photographs.

A sequence of pictures of a girl's first day at school illustrates the problem of mixed feelings. Finally, the concept that as people grow up their feelings should grow up too, is taught as the TV teacher tells about herself.

SUGGESTED PRE-VIEWING ACTIVITIES

Have the children discuss what happiness is to them. List their comment under the heading Happiness is' .....

SUGGESTED POST-VIEWING ACTIVITIES

1. Encourage the children to discuss things that frightened them once but do not do so any longer. Are their feelings "growing up"?

2. Why is it sometimes a good thing to be afraid? Fear sometimes protects us (traffic, water and fire safety).

3. Read and discuss one of the following books in terms of children's feelings:

   Alexander, Anne: Noise in the Night. (Rand McNally, 1960)

   Anglund, Joan Walsh: Love is a Special Way of Feeling. (Harcourt, Brace and World Inc., 1960)

   Hoban, Russell and Lillian: Some Snow Said Hello. (Harper and Row, 1963)

   Leaf, Munro: Manners Can be Fun. (J. B. Lippincott Co, 1958)

Suggested Bibliography

BERG, JOAN: *The Bunny Who Wanted a Friend,* Golden Press, New York. (Whitman Pub., Weston, Ontario.)

HOGAN, INES: *Fraidy Cat,* E. P. Dutton and Co., New York. (Clarke, Irwin, Toronto.)

PARRISH, PEGG: *My Golden Book of Manners,* Golden Press, New York. (Whitman Pub., Weston, Ontario.)

PROGRAM 12

MY HOW YOU'VE GROWN

Here we see that the body differs from our first concept of it as a machine, in that it has the capacity to grow. This program shows cells of various body tissues and the children learn that they themselves grow by adding new cells.

PROGRAM CONTENT

The TV teacher shows how a house of blocks grows as new blocks are added. The growth concept is developed from this simple illustration. The term "cells" is introduced and a microscopic section of a plant stem is shown to describe this structure.

Large drawings of various types of cells are examined. These are from different organs. The pupils see that skin, bone, muscle, nerve and blood cells differ in appearance as well as in function. A correlation between structure and function is suggested.

The children see dramatic time-lapse photography and observe division and the concept of growth by adding new cells.

Finally a baby boy is shown. The pupils will realize the amount of growth needed for him to become a man and will become conscious of the wonders of human development, even within their own bodies.

SUGGESTED PRE-VIEWING ACTIVITIES

Ask the children who have younger brothers and sisters at home to discuss some of the ways in which they are growing.

SUGGESTED POST-VIEWING ACTIVITIES

1. Guide the children in arranging a bulletin board display of photographs of themselves as babies. They will enjoy seeing how they have changed through growth.
2. Use a good magnifying glass or microscope to examine cells. Onion skins are good for this.
3. Another way of observing cell structure is to stand a celery stalk in red ink and notice how the ink slowly colours the whole stalk.

WORD CONCEPT

cell nerve

Suggested Bibliography

JACKSON, FRANCIS: *Our Living World* – Finding Out About Science Series – Golden Press, New York (Whitman Pub., Weston, Ontario.)

LAUBER, PATRICIA: *Your Body and How It Works*—Easy-to-Read Science Books – Random House, New York (Random of Canada, Rexdale, Ontario.)

PROGRAM 13

IN THE BEGINNING

The purpose of this program is to help children understand that chickens, kittens, and people all develop from special cells inside their mother's body. It also demonstrates the need of the young for protection, care and affection.

PROGRAM CONTENT

The program opens with a picture sequence of the hatching of a baby chick. "Muggsy", a puppet, asks how the chicken got into the egg. He learns that chickens, as well as many other animals, develop from special cells.

"Muggsy" then wants to know if the egg he had for breakfast had a chicken in it. The TV teacher denies this and proceeds to crack open an egg like the one he had for breakfast. They find no chicken inside. Next she goes into a pen where a mother hen is sitting on a nest of eggs. The teacher explains that she will not open these very special eggs but that she will show the children what is happening inside the eggs now and what will happen in the next few days.

A sequence follows showing the growth and development of the embryo chick to the appearance of the newly hatched chick on the twenty-first day.

When "Muggsy" asks his next question, "Do all animals come from eggs the mother sits on?", the teacher leads him to suggest that kittens come from inside their mother's body. The camera then moves to a mother cat feeding her kittens.

Next a special x-ray picture shows what the mother cat's body looked like inside before the kittens were born.

From the next question, "What about you?", the children discover that they began as special cells inside their mother's body. A few illustrations show the development of the baby.

The program concludes with scenes inside a hospital nursery where the newborn baby is cared for by the nurses, checked by the doctor, and loved by its parents.

SUGGESTED PRE-VIEWING ACTIVITIES

The children's baby pictures used in the previous program might well be used again. A discussion of all the care and protection which had to be given to them at this time would be interesting.

SUGGESTED POST-VIEWING ACTIVITIES

1. The incubating and watching of chicken eggs in the classroom is a very exciting follow up to this lesson.
2. Hatching frog, toad, snail or fish eggs also provides an interesting activity.

Suggested Bibliography

ETS, MARIE HALL: *The Story of a Baby,* Viking Press, 1939. (Macmillan of Canada, Toronto.)

GEORGIOU, CONSTANTINE: *Wait and See,* Harvey House Inc. (Based on real life experience in a classroom where children watch an incubator with its eggs for twenty-one days.) (Relco Associates, Toronto.)

GRUENBERG, SICHONIE M: *The Wonderful Story of How You Were Born,* Doubleday, 1959. (Doubleday Pub., Toronto.)

SELSAM, MILLICENT: *All About Eggs,* William R. Scott Inc., New York. (A must for both children and teacher.) (Saunders of Toronto, Don Mills, Ontario.)

SEUSS, DR.: *Horton Hatches the Egg,* Random House (1949) (for fun). (Random of Canada, Rexdale, Ontario.)

PROGRAM 14

SECRETS IN YOUR CELLS

The concept of genetic inheritance is introduced in this program. The children are led to understand that, although they have no control over their inherited physical characteristics, they do have the power to decide the direction their lives will take.

PROGRAM CONTENT

The teacher, with the use of riddles, presents the children with two facts:

1. All living things are made up of cells.
2. Small animals grow to resemble their parents — i.e. a kitten becomes a cat, a polywog becomes a frog.

People have always been aware that living things produced their own kind but it was not until the cell was discovered with the aid of the microscope that they understood why.

The teacher asks the questions, "Why do you look like a human being?" and, "Why do you look more like your parents than your friend's parents?" She explains that the secret is in your cells.

The children watch a film in which they observe cell division. The dark threads are shown.

They learn the word *genes* and are presented to an electron micrograph of genes. Genes are defined as packages of information which decide what we will look like. The children learn that half of the dark threads in their cells come from their mother and half from their father.

A sequence of pictures shows some of the things that are decided by genes: human characteristics, colour of skin, hair, and eyes and facial features.

The children are presented with a word *embryo* and its meaning is explained to them. From observation of pictures they learn that it is only in the later stages of embryonic development that it is possible to see whether the animal is a kitten, a chick, or a human. Emphasis is put upon the fact that the human embryo will develop into a very special human being unlike any other.

The program concludes with an explanation of the difference between inherited characteristics and learned characteristics.

SUGGESTED PRE-VIEWING ACTIVITIES

Ask the children to draw pictures of what they would like to be when they grow up. Have several children present their pictures to the group and tell about what they would like to be.

SUGGESTED POST-VIEWING ACTIVITIES

1. To show that baby animals resemble their parents, the children may make a picture collection of animal babies and full grown animals.
2. Some children may have family photographs which they may bring, to point out which family member they resemble most.
3. Have the children list inherited characteristics.

WORD CONCEPT

cells human genes embryo inherit

Suggested Bibliography

GAY, ZHENGA: *What's Your Name?* Viking Press, New York. (Delightful rhymes through which the children are led to guess what the baby animal will become when it is grown up. (Macmillan of Canada, Toronto.)

GAY, ZHENGA: *Wonderful Things.* Viking Press, New York. (Day-by-day growth of a young foal.) (Macmillan of Canada, Toronto.)

HALL, BILL: *Whatever Happens to Bear Cubs,* Golden Press, New York. (How do bear cubs get so big when they are born so small? (Whitman Pub., Weston, Ontario.)

JACKSON, FRANCIS: *Our Living World*.(Finding Out About Science Series.) Golden Press, New York. (For the teacher. This is in paper back form.) (Whitman Pub., Weston, Ontario.)

KLEIN, LEIONORE: *Just Like You.* Harvey House, Inc. (The all important message — just as all dogs are dogs, all cats are cats, and all fish are fish, all people are people too — Just like You!) (Relco Associates, Toronto.)

PROGRAM 15

YOUR BIRTHDAY SUIT

The purpose of this program is two-fold:

1. *To present to the children the concept that their skins are living organs in which they are wrapped, which protect their bodies from germs, and which put them in touch with the world,*
2. *To lead them to understand the scientific explanation for differences in the colour of skin.*

PROGRAM CONTENT

The teacher opens the program by making an analogy between protective wrappings for foods such as fruit and vegetables and the child's skin — his birthday suit.

She encourages the child to feel his skin and notice that although it is loose in some places and tight in others, nevertheless it fits him just right.

A snake skin is used to prove that the snake periodically sheds its skin and to introduce the idea to the children that they shed their skin too. An enlarged model is used to show the layers of skin. The children discover that the outer skin is really a thin layer of dead cells. These dead cells are always rubbing off. The cells which rub off are replaced by more cells which are made by the living inner layer of skin. (The children will now understand the riddle.)

The children discover that there are cells in this second layer of skin which make a brown colour. The cells in some people's skin make more of this colour than others. People who have more colour have darker skin. People with less have lighter skin. The colour of skin is inherited from the genes of the parents.

They also learn that their skin stands between their bodies and the world. It is through the skin that certain things about the world are reported to the body's network of nerves and finally to the brain.

The children are led to understand that the reason that it does not hurt to have their fingernails or hair cut is because there are no nerves in the part which has been cut.

The program concludes with a discussion of the function of fingerprints. Since everyone has his own birthday suit, no two people can have the same fingerprints.

SUGGESTED PRE-VIEWING ACTIVITIES

Ask the riddle: "Which part of your body keeps growing and growing even after it becomes as big as it ever will be?"

SUGGESTED POST-VIEWING ACTIVITIES

1. Have the children make their own

fingerprints by rolling a finger over an ink pad and pressing it on paper. Use an overhead projector or a magnifying glass to compare the prints.

2. Initiate a discussion of skin colouring with the following:
   - Why is the colour of your skin brown, or yellow-tan, or pinkish-white?
   - Sometimes we speak of a `white man' or a `black man'. Why do you think that these are the wrong colour words to use when speaking of people?
   - Have a child, who considers himself white, lay his hands on white paper.
   - Albinos might be discussed. The children learn that albinos are white because the cells in their skin do not make any colour.

WORD CONCEPTS

layers goosebumps fingerprints
organ root

Suggested Bibliography

COHEN, ROBERT: *The Colour of Man,* Random House, New York. (Random of Can., Rexdale, Ontario.)

LAUBER, PATRICIA: *Your Body and How it Works* — Easy-to-Read-Science-Books, Random House, New York. (Random of Canada, Rexdale, Ont.)

McGOVERN, ANN: *The Question and Answer Book About the Human Body,* Random House, New York. (Random of Canada, Rexdale, Ontario.)

SHOWERS, PAUL: *Your Skin and Mine,* Crowell, New York. (Ambassador Books, Rexdale, Ontario.)

PROGRAM 16

SNEEZLES, WHEAZLES AND MEASLES

The purpose of this program is to introduce children to the nature of germs and to the ways in which the body defends itself against them. It then shows the children what they can do to protect themselves from germs.

PROGRAM CONTENT

This program about germs opens with "Buggsy," "Muggsy's" cousin, sneezing. Suddenly the teacher appears on screen wearing a Hallowe'en mask which suggests what she once thought germs looked like. Using micrographs, the teacher shows the children what germs, which are tiny one-cell living things, really look like.

As "Buggsy" washes his hands with soap and water, he learns that this is one way to kill the many germs which are on his hands. In response to "Buggsy's question, "How do germs get inside my body and make me sick? ", the children learn about the body's first line of defense against germs. They learn about the protective outer wrapping of skin, the protective lining of the nose and throat, and the the germ-killing fluid in the eyes. A comparison is made between the way windows, walls, screens and doors keep bugs out of the house and the ways in which the body keeps out germs.

The next question presents the problem of what happens when germs do get through these defenses and into the body. The concept of antibodies is introduced very simply: they are the "good-guys" which defend the body against the "bad guys". Everyone has antibodies but for some diseases (polio, measles, smallpox and whooping cough) everyone needs more help. We get this help through shots.

This program concludes with the teacher asking the children to suggest ways in which "Buggsy" might help himself to recover from his bad cold.

SUGGESTED PRE-VIEWING ACTIVITIES

Initiate a discussion of germs with the following:

- What are germs?
- Where do you find them?
- What do you think they look like?

SUGGESTED POST-VIEWING ACTIVITIES

1. The children will naturally want to offer suggestions to help "Buggsy" get over his cold. They might tell him to stay at home, to rest in bed, to drink plenty of fluids and keep warm.
2. Recall with the children the ways in which germs invade the body. Can they answer these questions:
   - Why is it a good thing to cover your mouth when you sneeze?
   - Why would you cover your mouth when you cough?
   - Why take baths?
   - Why should you wash fresh fruit before eating it?
   - Why should you wash your hands before you eat, and after using the toilet?
   - Why should you keep your mouth on the water and not on the fountain when you are getting a drink from a bubbler fountain?
   - Why should whistles and lollipops always be just your very own and never shared with friends?
3. The children may wish to draw a picture or write simple stories about ways in which they can help themselves from letting germs get into their bodies.
4. The children may like to make a play about antibodies and germs. The "good guys" could wear sheriffs' hats and badges, the "bad guys" might wear black masks.

WORD CONCEPTS

germs antibodies one-cell living things
disease microbes

Suggested Bibliography

JACKSON, FRANCIS: *Our Living World,* (Finding Out About Science Series). Golden Press, New York. (Paperback — excellent source material for one-cell living things.) (Whitman Pub., Weston, Ontario.)

LEWIS, LUCIA Z: *The First Book of Microbes,* Watts. (Ambassador Books, Rexdale, Ontario.)

ZELLES, KANE: *The Fight Against Germs,* Row Peterson and Co., Evanston, Illinois. (Source book for the Teacher-historical approach to the fight against germs.) (Copp Clark Publishing Co., Toronto.)

PROGRAM 17

LOOK AT YOUR HANDS

The purpose of this program is to teach the unique qualities of the human hand.

PROGRAM CONTENT

The program opens with pictures of a young baby grasping the finger of an adult. The children are told that grasping like this and sucking were two things which they knew how to do as soon as they were born.

In the next film they see an older baby and they observe the many more things which this one has learned to do with his hands. They are then encouraged to think of the many things they can do with their hands. The teacher shows how they can grasp, pinch, pluck, pull, push, toss, catch, tear, slap, pat and punch.

The next film sequence introduces them to another baby animal which knew how to use its hands at birth — the baby monkey. The monkey baby is seen clinging to its mother's fur and travelling with her in that way.

The children are asked to look at their hands and find out what it is that makes them so useful. They try to unfasten a button without using their thumbs.

The teacher is trying to make the children aware of their opposable thumb.

The fact that we can learn so much through touch, in relation to the nerve endings, in the hands, is discussed.

The next picture sequence shows the many wonderful ways in which human hands have contributed to the advancement of human culture.

The introduction of a sixteen-month old chimp, "Joshua" and his trainer is a very exciting development in the film. "Joshua" demonstrates to the children some of the things he can do with his hands (and feet).

The human brain is compared to the brain of the chimp. It is observed that the human brain has more cells for storing information. At the conclusion of the program the children are left with the thought that the chimp will never learn as much as the human child, who is, of course, the smartest animal in the world.

SUGGESTED PRE-VIEWING ACTIVITIES

Tell the children that the title of today's program is, "Look At Your Hands". Ask them to look closely at their hands and move them for a minute or two. Express curiosity about the title.

SUGGESTED POST-VIEWING ACTIVITIES

1. The thumb experiment, done on the program, may be reversed. Have the children try to unfasten a button using their thumb. Ask them to try to tie a shoelace *without* using their thumb.
2. The children might enjoy working in groups going through old magazines to find pictures showing the use of hands. Display the entire collection on a bulletin board.
3. If it is possible, take the children to the zoo. Have them notice how animals exercise and play, what they eat and the sounds they make. In particular have them notice how the primates use their hands.

Suggested Bibliography.

ALIKI, BRANDERBERG: *My Hands,* Crowell New York. (Ambassador Books, Rexdale, Ontario.)

KRISHEF, ROBERT K. *Our Wonderful Hands,* Lerner Publications Co. (J. M. Dent, Don Mills, Ontario.)

REY, H. A.: Houghton, Miffin Co., Boston. (Thomas Allen, Don Mills, Ontario.)
Curious George
Curious George Rides a Bike — for fun
Curious George Gets a Medal

PROGRAM 18

TALK, TALK, TALK,

This program demonstrates the important role which language plays in the children's personal development and well-being.

PROGRAM CONTENT

From an opening picture sequence of a baby crying, the teacher develops the idea that only through crying can the baby communicate. She then discusses the learning process which comes before the baby first tries a word. She traces the growth of Lisa's understanding before Lisa finally said the word *bow-wow.* The children observe that at first *bow-wow* was for all four-legged animals and later she understood that there are different words related to different animals.

The teacher praises the children for the way in which they handle the English language so effectively.

At this point they are reminded that there are other languages spoken in the world besides English. They are introduced to Tina Wang, who speaks both English and Chinese and Tina teaches the children a few Chinese words.

The way in which animals communicate is considered next. The children are made aware that because of their limited brain capacity, animals cannot use words and ideas as humans do.

The program concludes with the teacher telling a story without words in order to demonstrate to the children the importance of talk as a basis to learning.

SUGGESTED PRE-VIEWING ACTIVITIES

Give whispered messages to several children and have them try to give the message to the class without speaking.

SUGGESTED POST-VIEWING ACTIVITIES

1. The children will enjoy telling about a baby brother or sister's first word or perhaps they may know about their own first word. As with Lisa, you might point out that very often the sound something makes is substituted for the real name. *bow-wow, choo-choo, quack-quack, neigh, moo* etc.
2. Teach the children a song in a language other than English. Perhaps this will be an opportunity for a child in the group who speaks another language.

If the child cannot teach a song, perhaps he would like to teach a few words as Tina did in the film.

3. Here are the words which Tina taught:

monkey	*hoúdz*
zebra	*ban ma*
tiger	*lan hu*
dog	*gou*
leopard	*baù*

4. At the end of the day consider with the children the many ways in which you both used language in the classroom.

WORD CONCEPTS

language voice box

Suggested Bibliography

MUNKRES, ALBERTA: *Helping Children in Oral Communication,* Bureau of Publications, Teachers College, Columbia University 1959. (McGill University Press, 3458 Redpath St., Montreal 25, P.Q.)

SCOTT, LOUISE BINDER, and J. J. THOMPSON: *Talking Time,* McGraw-Hill Book Co., 1951. (McGraw Hill of Can. Scarborough, Ont.)

SELSAM, MILLICENT E: *The Language of Animals,* William Morrow & Co., New York. (Geo. J. McLeod, Toronto.)

PROGRAM 19

YOU AND YOUR THREE BILLION RELATIVES

This program demonstrates that basic human needs are everywhere the same, but that the ways in which these needs are met vary from culture to culture.

PROGRAM CONTENT

Through the use of a large globe and moving stick figures the child is made aware of the fact that there are billions of people living in family groups all over this world, and yet he knows only a very few of these people.

He is introduced to a few children of other cultures and is led to understand that these children are as important to their families as he is to his.

A doll collection is used to demonstrate cultural differences. People who live in the countries from which these dolls come have a different language and different houses, food and clothing.

The teacher then focuses on the basic needs for shelter and food. An Eskimo igloo and a Nigerian mud hut are shown and a discussion follows on the need for houses. How man's skill in providing shelter has developed is shown in drawings of cave dwellers and the lake dwellers.

The second basic need for food is pointed out through a cartoon. A caveman pushing a cart from a supermarket underlines the fact that people have not always found it easy to get the necessary food for themselves.

Two film sequences on family life in other cultures are shown: one of New Guinea and the other of Luis, a boy of Ecuador.

The program concludes with the teacher making this suggestion, "Tell your teacher all the ways you think you and your three billion relatives are alike."

SUGGESTED PRE-VIEWING ACTIVITIES

Initiate a research project in which the children find pictures of people of other cultures, who are doing things "that you and your family do also." These pictures may be found in books at school, at the library, at home or in magazines.

SUGGESTED POST-VIEWING ACTIVITIES

1. Discuss with the children all the ways in which they are like their three billion relatives.

2. In what ways do you help your family? Can you remember the ways in which Luis helped his family?

3. Invite a parent or a person, well informed in another culture, to come and speak to the children.

WORD CONCEPTS

relatives families
shelter cavemen

Suggested Bibliography

BURNS, WILLIAM A: *A World Full of Homes.* McGraw Hill, 1953. (McGraw-Hill of Can., Scarborough, Ontario.)

FROMAN, ROBERT: *Billions of Years of You,* World 1967. (Nelson, Foster and Scott, Agincourt, Ontario.)

Japanese Family — This is a kit of materials that helps children experience some of the ways a family of another culture lives. Information may be obtained by writing to:

American Science and Engineering Inc.,
20 Overland Street,
Boston, Mass. 02215

PROGRAM 20

NO TWO ALIKE

The purpose of this program is to emphasize the uniqueness of each human being. The children are made aware of and taught to respect individual differences.

PROGRAM CONTENT

As the program opens "Muggsy" and teacher are looking at a book of baby-pictures. "Muggsy" makes the observation that all babies do not look alike. The teacher uses a trick photograph to show what difficulties would result if all of the boys in the class and all the girls looked exactly alike.

Through the use of children's photographs, the teacher discusses the factors which make people look different — colour of skin, shape of face, size and shape of body.

The teacher tells "Muggsy" and the children how identical twins are formed. They then meet some real life identical twins. Fingerprints and voice prints made on the program show ways in which the twins are different.

The teacher then discusses differences in people which occur because of different experience backgrounds. This discussion finalizes with a film sequence showing twin boys, John and James, who live in the same house, have the same parents and go to the same school, yet do not have the same experiences.

The program concludes with the teacher making the observation that because every person in the world is different, people are very exciting and interesting.

SUGGESTED PRE-VIEWING ACTIVITIES

1. It may be possible to bring identical twins into the classroom to tell the children some of the funny things that happen to them because they look so much alike. They might also tell the ways in which they are different — likes and dislikes, hobbies, abilities etc.

SUGGESTED POST-VIEWING ACTIVITIES

1. Make a collection of pictures showing how different boys' growing-up experiences are from girls' experiences. Also include in this display the experiences of children of different cultures.

2. Discuss with the children what they want to be when they grow up. Comment on the many different interests. What would happen if all boys decided to become astronauts and all girls wanted to be teachers?

WORD CONCEPTS

experience
genes
inherited
identical twins
fingerprints

Suggested Bibliography

BROTHERS, ARLEEN and HOLSCLAW, CORA: *Just One Me,* Follett 1967. (Ryerson Press, Toronto.)

BUCKLEY, P. and JONES H., WILLIA: *Andy and Ramon,* Holt Urban Social Studies Series: Holt, Rinehart and Winston, 1966. (Holt, Rinehart and Winston of Canada, Toronto.)

HEALTH-ALL ABOUT YOU